

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

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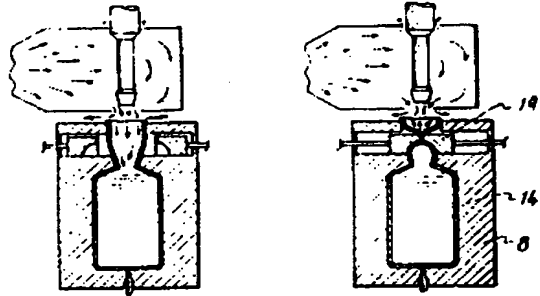
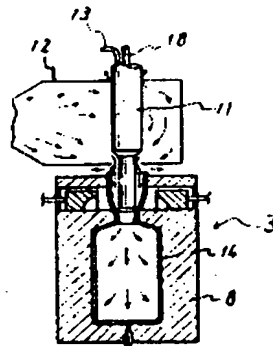
APPLICATION DATE : 30-08-83
APPLICATION NUMBER : 58158553

APPLICANT : AIDA ENG LTD;

INVENTOR : FURUI KOICHI;

INT.CL. : B29C 49/04 B65B 55/04 // B29C 49/42
B29L 22:00

TITLE : STERILIZER FOR BLOW AND
INJECTION MANDREL STATION OF
PLASTIC CONTAINER MOLDING
MACHINE



ABSTRACT : PURPOSE: To prevent the contamination of plastic containers by mandrel, etc., by covering the tip and periphery of blow and injection mandrels to be vertically moved and also the upper opening and its neighbor of molds with the atmosphere of aseptic air in a plastic container molding machine.

CONSTITUTION: Aseptic pressure air is supplied from an air supply and discharge port, and a parison 6 is expanded along a die 8 and molded into a container 14 by blow molding. An injection mandrel 18 is then slightly lowered, the valve of the tip is opened, and a packing material is injected into the container 14. A blow and injection mandrel 11 is then raised, and the opening of the container 14 is closed by a closer 19. During the period, aseptic pressure air to be jetted from a germ-free chamber 12 is sent to the peripheral area of the mandrel 11 and the space between the mold device 3 and the germ-free chamber 12 and the intrusion of the open air is prevented. The contamination of the parison 6 and the container 14 by pollutants from the open air can thus be prevented. A through process of the molding machine under aseptic condition is performed in this way.

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27.02.06

Reference
M-11341

Application No./Patent No.
04019306.2 - 2307

Applicant/Proprietor
TI Group Automotive Systems, L.L.C.

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report (under R. 44 or R. 45 EPC) for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

- ☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division :

- ☐ Abstract ☒ Title

- ☒ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract : 1

Refund of search fee

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT							
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)				
X	US 4 266 927 A (GILBERT ET AL) 12 May 1981 (1981-05-12)	1,6,10, 12,13, 15-19, 21-23	B29C49/58 B29C49/48				
Y	* column 5, line 50 - column 6, line 66; figures 4-7 *	7,8,20					
X	US 3 428 722 A (RICHARD MARION CHITTENDEN ET AL) 18 February 1969 (1969-02-18)	1,6,10, 12,13, 15-19, 21-23					
Y	* column 2, line 59 - column 5, line 56; figures 1-4 *	7,8,20					
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 05, 14 September 2000 (2000-09-14) -& JP 2000 052413 A (NAIGAI KASEI KK), 22 February 2000 (2000-02-22)	1,6,10, 12,13, 15-19, 21-23					
Y	* abstract; figures 4,5 *	7,8,20					
X	PATENT ABSTRACTS OF JAPAN vol. 013, no. 183 (M-820), 28 April 1989 (1989-04-28) & JP 01 011819 A (MAZDA MOTOR CORP), 17 January 1989 (1989-01-17) * abstract; figures 1,3 * -& DATABASE WPI Section Ch, Week 198908 Derwent Publications Ltd., London, GB; Class A23, AN 1989-058568 XP002367200 & JP 01 011819 A (TOYO KOGYO CO) 17 January 1989 (1989-01-17) * abstract *	1-5,9, 11,14,18	B29C				
The present search report has been drawn up for all claims							
Place of search Munich		Date of completion of the search 10 February 2006	Examiner Lorente Munoz, N				
<table border="0"><tr><td>CATEGORY OF CITED DOCUMENTS</td><td>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document</td></tr><tr><td>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</td><td></td></tr></table>				CATEGORY OF CITED DOCUMENTS	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	
CATEGORY OF CITED DOCUMENTS	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document						
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 3 592 885 A (ROBERT R. GOINS ET AL) 13 July 1971 (1971-07-13) * column 4, line 10 - column 4, line 25; figures 1,4,5,7 *	7,8,20	
Y	EP 0 355 437 A (GENERAL ELECTRIC COMPANY) 28 February 1990 (1990-02-28) * figures 13,14 *	7,8,20	
A	EP 0 204 200 A (PLM-RAKU GMBH) 10 December 1986 (1986-12-10) * figures 2,5,6 *	1,6-8, 10,12, 13,15-23	
A	US 4 176 153 A (NAGEL, DIETER H ET AL) 27 November 1979 (1979-11-27) * column 3, line 12 - column 4, line 36; figures 1-4 *	1-5,9, 11,14,18	
A	PATENT ABSTRACTS OF JAPAN vol. 009, no. 183 (M-400), 30 July 1985 (1985-07-30) & JP 60 049919 A (AIDA ENGINEERING KK), 19 March 1985 (1985-03-19) * abstract; figures *	1-5,9, 11,14,18	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
Place of search Munich		Date of completion of the search 10 February 2006	Examiner Lorente Munoz, N
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</div>			



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1, 6-8, 10, 12, 13, 15-23

Method and apparatus for blow molding a fuel tank comprising a pinch plate assembly including a pair of driven pinch plates which are serrated or undulated and at least one trim blade.

2. claims: 1-5, 9, 11, 14, 18

Method and apparatus for blow molding a fuel tank comprising a blow pin assembly including a driven blow pin guide, an arm and a block carried by the arm.

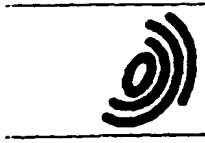
**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 01 9306

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10-02-2006

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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ABSTRACT / ZUSAMMENFASSUNG / ABREGE

04019306.2

A fuel tank is formed by a blow molding apparatus (10) and method wherein a blow pin (22) provides pressurized gas into an interior of a parison received in a blow mold (12) so the parison may be blown to shape within the mold cavity. When the blow pin is no longer needed, it is retracted from the mold and a pinch plate (26) assembly is used to close off the opening in the molded part created by the blow pin. Thereafter, the mold may be opened and the molded part removed, the pinch plate assembly is moved back to its retracted position, and the blow mold pin may be advanced into the open mold for use with a subsequent parison so that the subsequent parison can be blow molded in the same manner.